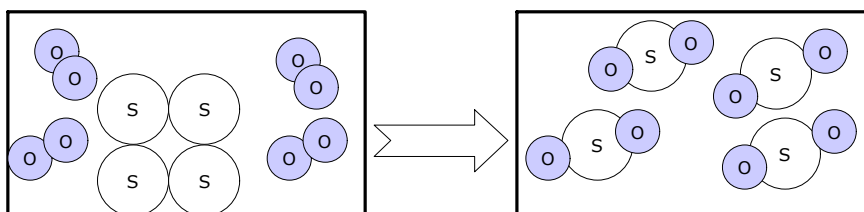
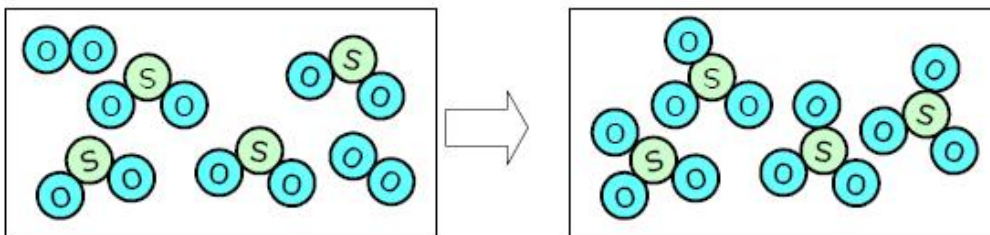


EXAM: Atomic Models & Periodic Table

Name:

Group:

- 1 Classify the matter and the changes shown below
1 POINT



- 2 The table below gives information about some atoms / ions.
2 POINTS

Atom/ion	# of protons	# of neutrons	# of electrons
A	17	20	17
B	8	8	10
C	17	18	17
D	9	10	10
E	11	12	10
F	16	18	16

- Which ones are cations? Which ones are anions?
- Write the Lewis notations of all species
- Which ones are isotopes? Why?
- Calculate the mass of each atom/ion (in "u" units)

- 3 We have a sample of hydrogen atoms and their electrons are placed in the excited state $n=4$.

- draw all the possible jumps in a energy diagram (draw the origin of energies)
- draw the emission spectrum, giving
 - their placement in the IR, visible and UV regions
 - their arrangement according to their energies

1 POINT

- 4
1. the element with the highest metallic behavior
 2. indicate alkaline earth elements shown in this table
 3. the element with this electron configuration: $1s^2 \dots 4s^2$
 4. order the elements R, D, M, V, in the increasing order of electronegativity
 5. write the electron configuration of M using the orbital diagram (box diagram)
 6. indicate the ions that form the elements V and D
 7. show the elements in which the atom has only one unpaired electron
 8. indicate the halogens specified here
 9. order the elements N, J, T, Z in the increasing order of size
 10. show the element with $Z^* = 7$
 11. show the elements with the lowest value of Z^*
 12. indicate the metals
 13. indicate the ions that form M, N and T
 14. indicate the elements with three electrons unpaired
 15. indicate the elements with four electronic levels
 16. indicate the elements with one electron in their last electronic level
 17. the element with highest electronegativity and give the reasons
 18. indicate the elements with this electron configuration in their last level: $s^2 p^1$
 19. place the following elements in their positions in the periodic table: X: $1s^2 \dots 3s^2 3p^3$ Y: $1s^2 2s^2 2p^2$
 20. fill in the table with the real symbols
- 6 POINTS

Q	
	N
M	T

J		Z		D	
	R		V		L